PCN10

COST-EFFCTIVENESS ANALYSIS OF ERLOTINIB COMPARED WITH DOCETAXEL AND PEMETREXED FOR SECOND-LINE TREATMENT OF ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) IN TAIWAN

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OBJECTIVES: To assess the cost-effectiveness of erlotinib versus docetaxel and pemetrexed for second-line treatment of advanced NSCLC in Taiwan, from a payer's (Bureau of National Health Insurance [BNHI]) perspective. **METHODS:** A health state-transition Markov model was developed to evaluate incremental cost-effectiveness in terms of cost per quality-adjusted life year (QALY). Clinical outcomes were derived from the pivotal phase III studies of erlotinib (BR.21), docetaxel (TAX317) and pemetrexed (JMEI). Progression-free and post-progression survival were modeled using the actuarial method of Kaplan-Meier analysis, with a 2-year time horizon and a cycle length of 1 month. Direct medical costs associated with drug acquisition and drug administration were based on Taiwan's National Health Insurance fee schedule (2007). Costs for medical resource utilisation and adverse event management were estimated from an expert panel survey including six oncologists. Health-related utility scores were collected from a utility study conducted among 154 people in the UK by applying the EQ-5D York tariff and the EQ-5D visual analogue scales. Costs and health outcomes were discounted at an annual rate of 3.5%. One-way deterministic sensitivity analyses were performed on key model parameters by varying the input values by ±10%. **RESULTS:** Erlotinib was dominant versus both docetaxel and pemetrexed, with base case incremental cost-effectiveness ratios (ICERs) of –NTD $188,205 (–€4,255) and –NTD $3,309,629 (–€74,828) per QALY, respectively. In sensitivity analyses, the ICER of erlotinib versus docetaxel ranged from dominant to NTD $228,180 (€5,159) per QALY. Erlotinib remained dominant versus pemetrexed in sensitivity analyses. The results obtained were most sensitive to changes in drug acquisition costs. **CONCLUSION:** From the perspective of the Taiwan BNHI, this pharmacoeconomic analysis demonstrates that the use of erlotinib as second-line treatment of advanced NSCLC would not only save direct medical costs but also improve health outcomes compared with docetaxel and pemetrexed.

PCN11

COST-UTILITY ANALYSIS OF DASATINIB IN PATIENTS AFTER FIRST-LINE FAILURE OF IMATINIB IN CHRONIC MYELOID LEUKEMIA (CML) IN AUSTRIA

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OBJECTIVES: To estimate cost-effectiveness of dasatinib vs. imatinib in chronic-phase CML after failure of first-line imatinib from the perspective of the Austrian Social Healthcare Insurance System. **METHODS:** Long-term cost-effectiveness of dasatinib (2 × 70 mg/day) vs. imatinib (800 mg/day) was modeled with a Markov model using initial best response from a randomized clinical trial in chronic-phase CML patients resistant to 400–600 mg imatinib. Model simulation runs in monthly cycles until all patients have died. Disease progression depends on initial best response and current health-state, and was simulated according to literature based monthly transition-probabilities. Occurrence of serious adverse events (SAEs) was drawn from trial observations. Utilities were obtained from a CML utility study using EQ-5D, life expectancy from national statistics. Health care utilization and costs were derived from panels of clinical and finance experts, databases of 24 hospitals across Austria and Austrian drug price list. Both costs and effects were discounted annually at 5%. Sensitivity analyses on efficacy, costs and utilities were performed. **RESULTS:** Treating patients with dasatinib is a dominant treatment strategy compared to treatment with high dose of imatinib over lifetime time. Over lifetime, dasatinib is associated with a gain of 0.57 QALY (95% CI: –0.25 to 1.42) and considerable cost savings of €15,213 (95% CI: –€40,220 to €71,522). Dasatinib is also a dominant treatment strategy at a 1-year time horizon. While the utility component is driven by efficacy results, the cost component is driven by drug use and outpatient visits rather than management of SAEs and imaging/testing services. Results were robust to sensitivity analyses. **CONCLUSION:** Dasatinib is associated with increased effectiveness and cost savings to the Austrian health care system, and can be considered an improvement in treatment of chronic-phase CML patients after failure of first-line imatinib.

PCN12

COST-EFFECTIVENESS OF TARGETED ONCOLOGY THERAPIES: A SYSTEMATIC LITERATURE REVIEW

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OBJECTIVES: Novel therapies for cancer have been developed that interfere with specific molecules involved in tumor growth. These therapies are generally more expensive than traditional therapies and have drawn scrutiny from health care policymakers. Cost-effectiveness analysis (CEA) is an accepted tool to prioritize health care interventions. We conducted a review of the CEA literature on these targeted oncologics to determine if their premium prices are justified. **METHODS:** A systematic review of the cost-effectiveness literature published between January 1997 and May 2007 was conducted for the following agents: alemtuzumab, bevacizumab, bortezomib, cetuximab, erlotinib, gefitinib, gemtuzumab, imatinib, rituximab, sorafenib, sunitinib, tositumomab, and trastuzumab. Exclusion criteria included: publications not available in English, letters to the editor, opinion-based articles, review articles, abstracts only, health technology assessments, and studies of diseases other than cancer. Relevant data from the included articles were extracted to summary tables. **RESULTS:** Eighteen articles met the inclusion and exclusion criteria. Six articles evaluated trastuzumab for breast cancer, 5 examined imatinib for chronic myelogenous leukemia, and 4 studied rituximab for diffuse large B-cell lymphoma. The remaining 3 articles examined imatinib, bortezomib, and cetuximab therapy for gastrointestinal stromal tumors, multiple myeloma, and metastatic colorectal cancer respectively. Targeted therapeutics exceeded the threshold of 50,000 dollars/euros or 30,000 pounds in only 5 out of 22 scenarios (cetuximab + irinotecan vs. best supportive care, imatinib vs. hydroxycarbamide, imatinib vs. hydroxyurea, imatinib vs. combination therapy (blast crisis), trastuzumab vs. standard chemotherapy). **CONCLUSION:** Less than half of the targeted oncologics studied have been evaluated by the standard technique of CEA. The majority of the CEAs reviewed adhered to